



Research Update • Le point sur la recherche

Preventing stress-ulcer bleeding during mechanical ventilation

The histamine (H_2)-receptor antagonist ranitidine prevents more bleeding due to stress ulcers in patients receiving mechanical ventilation than the cytoprotective agent sucralfate, results of a cross-Canada study show (*N Engl J Med* 1998;338:791-7).

Gastrointestinal bleeding due to stress ulcers is a potentially serious complication of mechanical ventilation, and prophylaxis for stress ulcers with either an H_2 -receptor antagonist or a cytoprotective agent has been recommended.

"Previous studies have yielded conflicting information about the potential role of these drugs and have suggested that the drugs may be equivalent in terms of the prevention of bleeding," explains the study's principal author, Dr. Deborah Cook, who is with McMaster University and St. Joseph's Hospital in Hamilton, Ont.

However, she says this study provides "clear evidence of a clinically important and statistically significant benefit of ranitidine." For intensive

care physicians it is "a simple matter": ranitidine is the best choice if stress ulcer prevention is needed.

The study was conducted under the auspices of the Canadian Critical Care Trials Group, of which Dr. Cook is chair, and was one of the largest randomized, double-blind, placebo-controlled trials involving critically ill patients ever conducted. It enrolled 1200 patients seen in 16 intensive care units from coast to coast.

The relative risk of gastrointestinal bleeding in the patients receiving ranitidine versus sucralfate was 0.44. Approximately 48 patients would have to be treated with ranitidine rather than sucralfate to prevent 1 clinically important hemorrhage. However, the study also found a trend toward a lower rate of nosocomial pneumonia with sucralfate rather than ranitidine prophylaxis.

"One of the downsides of histamine antagonists is that they may be associated with a higher risk of nosocomial pneumonia," says Cook. "This should encourage attention to pneumonia prevention strategies in critically ill patients." — C. J. Brown

In the news . . .

Melanoma vaccines

Genetically engineered vaccines to treat melanoma are undergoing tests around the world. In 2 reports, researchers at the US National Institutes of Health achieved positive responses in 13 of 31 patients with melanoma treated with a synthetic peptide (*Nature Med* 1998;4[3]:321), while researchers in Germany achieved regression of metastases in 5 of 16 patients treated with a dendritic-cell vaccine (*Nature Med* 1998; 4[3]:328).

Turning off chronic pain

There has recently been a flurry of research into the mechanisms that cause extreme pain and extreme sensitivity after tissue damage. Now Japanese researchers have discovered a peptide dubbed "nocistatin" that blocks the peptide that causes these chronic forms of pain (*Nature* 1998;392:286). The 2 peptides may play opposite roles in pain transmission. Discovery of nocistatin may lead to new therapy for chronic pain.

More evidence on calcium-channel blocker and cancer

Concern over reports that the use of calcium-channel blockers is linked to cancer risk led to a huge study in the northeastern US (*JAMA* 1998; 279:1000-4). The study of 9513 patients with cancer and 6492 control patients has found no relation between use of the drug and almost all cancers and specific types of cancer. The exception is kidney cancer, which was clearly associated with use of the drugs. Other studies have also found that kidney cancer is associated with hypertension or with anti-hypertensive drugs.

Canada versus the US: health care still slower, still cheaper

Elective hospital services are significantly cheaper in Canada (were patients to pay for them out-of-pocket), but Canadian patients have to wait much longer for some services, according to a massive telephone survey of 48 US and 18 Canadian hospitals in cities of more than 500 000 people (*JAMA* 1998;279:1015-7).

Toronto researchers conducted

the survey between May 1996 and April 1997 and uncovered several major discrepancies between the countries' health care systems.

The median waiting time for magnetic resonance imaging of the head was 3 days in the US versus 150 days in Canada. By contrast, the median price for a total knee replacement was US\$26 805 in the US versus US\$10 651 in Canada.